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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,505	03/09/2004	Chun-Yao CHEN	OTMP0073USA	2504
27765	7590	03/25/2005	EXAMINER	
NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)			SEVER, ANDREW T	
P.O. BOX 506			ART UNIT	
MERRIFIELD, VA 22116			PAPER NUMBER	

2851

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/708,505

Applicant(s)

CHEN ET AL.

Examiner

Andrew T. Sever

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Objections***

2. Claims 1-7 are objected to because of the following informalities: The use of the comma and phrase “,and comprising” in claim 1 renders the claim ambiguous.

Appropriate correction is required.

It is not clear that the limitations following the above phrase and coma are modifying, for example in the third and fourth line does the optical engine contain the lamp or is the lamp just a part of the projection display device in general and not necessarily a part of the optical engine? For purposes of a prior art rejection it will be assumed that the limitations following the phrase and coma are part of the particular device preceding the phrase; for example the lamp is being assumed to be a part of the optical engine and not just the display device in general.

Claims 2-7 are dependent on claim 1 and are objected to at least due to their dependency to the objected claim.

3. Claim 3 is objected to because of the following informalities: the use of the word flank to modify sides. Appropriate correction is required.

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Flank's meaning is side, so it is not entirely clear how flank modifies sides and adds to the claim. Clarification or deletion is required.

4. Claims 8-12 objected to because of the following informalities: claim 8 claims a recess, however it does not claim in what. Appropriate correction is required.

Claim 8 claims that a recess is disposed below the fan, however claim 8 does not set forth any sort of casing or structure besides the lamp and the cooling apparatus (the fan). In order for there to be a recess, there must be something to be recessed. For purposes of the prior art rejection the limitation of the recess will be ignored, as one of ordinary skill in the art would recognize that whatever the recess is in, its outside of the cooling apparatus (for example in the casing of a projector). Applicant is advised to review the rejection of claim 1, which includes a recess in the casing of a projector utilizing the cooling apparatus.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 8-12 are rejected under 35 U.S.C. 102(e) as being anticipated by

VanOverloop et al. (US 2004/0263790.)

VanOverloop teaches in figure 4 a lamp cooling apparatus, comprising:

A fan (59), which is installed at the bottom part of said lamp (bottom and top are relative terms and since VanOverloop does not appear to have a preferred direction at least for any mechanical reason (such as flipping it over would make it inoperable), the side the fan is on will be considered the bottom)

*With regards to applicant's claim 9:*

Parts 61a, 61b and the interior casing surrounding the lamp form a convection space and are lamp covers.

*With regards to applicant's claim 10:*

Outlets are disposed opposite the inlet fan, but are not labeled; they are at the location that the lines for 2228 and 229 pass through. (See figure 3 part 242.)

*With regards to applicant's claim 11:*

The fan is installed at the air inlet (VanOverloop does not establish which direction the airflows, given fans can easily be made to flow either way both possibilities are considered to be shown in figure 4. There is no inherent advantage to one direction or the other and without evidence there is no reason to assume VanOverloop does not teach it being an inlet fan.)

*With regards to applicant's claim 12:*

The grid pattern shown for example in figure 4 is equivalent to diversion plates.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over VanOverloop et al. as applied to claims 8-12 above, and further in view of Ogawa et al. (US 4,925,295.)

As described in more detail above VanOverloop teaches a cooling apparatus, further VanOverloop's cooling apparatus is part of a projection display device's optical engine (see paragraph 1.) VanOverloop however does not teach the casing of the overall projection display device and the recess that the fan of the cooling device is disposed above (or below depending on which orientation one takes.)

Ogawa teaches in figure 2 a projection display device having a casing 10 and 14, a lamp 53 and a cooling device comprising of a fan 72 and air intake 12a.

(Ogawa's fan is taught to be an exhaust fan, due to the fact that it also is used to cool the imaging devices and the ductwork for that is such that it must exhaust.)

Ogawa includes a recess portion in the casing for the fan defined by walls 15 and 16, which are taught to help guide the air. Given that it is well known in the art that space must be provided in the casing for the fan (or else the cooling device will not fit in the projector) and that Ogawa teaches that the walls forming the recess have the added advantage (besides just making space) of guiding the air more efficiently between the parts to be cooled and the fan; it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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include a recess portion in the casing as taught by Ogawa for receiving the cooling fan.

*With regards to applicant's claim 2:*

The recess is on the outer casing in Ogawa.

*With regards to applicant's claims 3:*

Both VanOverloop and Ogawa teach air intake and outlets which are disposed opposite each other.

*With regards to applicant's claims 4-7:*

See the above rejection under 35 USC 102e based on VanOverloop of claims 8-12.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,866,389 to Ito et al. teaches in figure 7 an air intake vent 30 which is taught in column 6 lines 47-50 to draw in air for the light source and in column 20 lines 19-24 teaches that a fan not shown is provided in that recess. This patent could also be relied upon as the secondary reference in the above 35 USC 103 rejection instead of Ogawa.



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US 6,837,583 to Gishi et al. teaches in figure 7 a light source cooling system.

US 6,739,831 to Hsu et al. teaches various arrangements of fans and ductwork for cooling a light source.

US 2004/0263799 to Lim teaches in figure 2 a cooling device for a light source utilizing a labeled air intake fan (302). However it has a later filing date than the present application.

US 2002/0159260 to Ebersole teaches in figure 4 a projection device having a fan disposed below the light source.

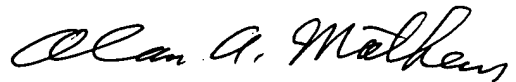
US 6,758,583 to HSU is a co-assigned patent which shows in figure 1 multiple fans both in the intake and outlet for drawing air past a light source; at least the outlet fans are disposed in what appears to be a recessed area.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Alan A. Mathews**  
**Primary Examiner**

AS